CHAPTER 27

GEOTHERMAL POWER PLANT

10-27-1 Purpose. The purpose of this chapter is to establish minimum requirements and regulations for the placement, construction and modification of geothermal power plants, as defined herein, while promoting the safe, effective and efficient use of such systems. (Ord. 6 § 2 (part), 2009)

10-27-2 Definitions.

COOLING TOWER:	An evaporative or air cooling system designed to augment the cooling during high ambient temperature conditions.
GENERATING UNIT:	Equipment used to convert heat provided by geothermal resources into electricity consisting of an evaporator, condenser, turbine, induction generator, cycle-pump, system controls, control valves, and piping.
GEOTHERMAL POWER PLANT:	A facility that uses geothermal energy, defined as natural heat, hot water and/or steam from within the earth, to produce electricity.
SWITCHGEAR:	The term “switchgear,” used in association with the electric power system, or grid, refers to the combination of electrical disconnects, fuses and/or circuit breakers used to isolate electrical equipment.
TRANSFORMERS:	A device that transfers electrical energy from one circuit to another through inductively coupled electrical conductors. (Ord. 6 § 2 (part), 2009)

10-27-3 Regulations and design standards—Geothermal power plant. A geothermal power plant shall comply with the regulations and design standards set forth below:

A. Permitted Locations. A geothermal power plant is permitted as described in Section 17.16.030, Table of Uses, Washington County zoning ordinance.

B. Minimum Lot Size. No geothermal power plant shall be erected on any lot less than twenty acres in size.

C. Total Height. The total height of the tallest cooling tower shall not exceed fifty feet.

D. Setbacks.

1. Property Lines. A geothermal power plant shall be set back from the nearest property line, public road right-of-way and tanks containing combustible/flammable liquids not less than 1.5 times the total height of its tallest cooling tower or highest structure.

2. Inhabitable or Public Structures/Other Uses. No geothermal power plant shall be located within one-half of a mile of the nearest existing inhabitable structure (residence), platted subdivision, or public building or gathering place (park, church, hospital, library, school, playground, etc.), unless first obtaining a nuisance impact easement, as described in Section 17.35.060, from the property owner of such property located within one-half of a mile of the proposed geothermal power plant.

E. Safety/Access.

1. An eight-foot fence shall be placed around the perimeter of the geothermal power plant and electrical equipment shall be locked.

2. Appropriate warning signage shall be placed on towers, electrical equipment and geothermal power plant entrances.

F. Noise. No geothermal power plant shall exceed sixty-five dBA as measured at the property line or fifty dBA as measured at the nearest neighboring inhabitable building.

G. Visual Appearance.

1. Geothermal power plants shall be finished and maintained as manufactured.

2. The design of any buildings or related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the facility into the natural setting and existing environment.

3. Appropriate landscaping shall be provided to minimize the visual impact of the commercial geothermal power plant and accessory structures from roads and adjacent residences.

H. Fire Protection. All geothermal power plants shall have a defensible space for fire protection in accordance with the Washington County Wildland-Urban Interface Code.

I. Local, State and Federal Permits. A geothermal power plant shall be required to obtain all necessary permits from the Utah Department of Environmental Quality, including the Utah Division of Air Quality and the Utah Division of Water Quality, applicable permits required by Washington County, and applicable federal permits.

J. Electrical Interconnections. All electrical interconnection or distribution lines shall comply with all applicable codes and public utility requirements. (Ord. 6 § 2 (part), 2009)

10-27-4 Provisions for conditional use permit review. Following the provisions of Chapter 10-18, Washington County Code, additional or more thorough consideration shall be given to the following:

A. Project rationale (time frame, project life, development phases, likely markets for the generated energy, and possible future expansions);

B. Siting considerations (avoid areas/locations with a large potential for biological conflict such as wilderness study areas, areas of critical environmental concern, county and state parks, historic trails, special management areas or important wildlife habitat; avoid visual corridors that are essential view sheds or scenic areas designated by the county after analyzing the applicant's geothermal power plant and considering public hearing comments; avoid areas of erodible slopes and soils, where concerns for water quality and high storm runoff potential have been identified, and known sensitive historical, cultural or archeological resources and public safety concerns mentioned herein can best be avoided);

C. Site and development plans (drawn to scale; locating all structures existing and proposed, setbacks, access, project boundary, existing structures outside project boundary within one-half mile of project boundary, existing utilities/pipelines/transmission lines, proposed utility lines/structures, existing topography; map of proposed drainage/grading and natural vegetation removal plan; map of wind characteristics and dominant wind direction; map of floodplains or wetlands, and other items identified by county staff or planning commission);

D. Economic analysis (economic cost/benefit analysis describing generated property taxes, sales taxes, other taxes, construction dollars spent locally, estimated construction jobs and construction payroll, estimated permanent jobs and continuing payroll, and costs associated with impact on roads and other county infrastructure in the area);

E. Visual impacts, appearance and scenic view sheds (visual simulations providing vantage points considering a three hundred sixty degree view of the project site);

F. Wildlife habitat areas and migration patterns, including avian impacts (including endangered or threatened species, on the site and in a biologically significant area surrounding the site);

G. Environmental analysis in the absence of required state or federal agency review (impact analysis on historic, cultural and archaeological resources, soil erosion, flora in the project area, water quality and water supply in the area, dust from project activities, and cumulative impacts of other adjacent geothermal power plant projects);

H. Solid waste or hazardous waste generated by the project;

I. Lighting and FAA height restrictions, including airport overlay proximity (air traffic safety);

J. Transportation plan for construction and operation phases (showing proposed project service road ingress and egress access onto the state or county road system, layout of wind energy system service road system and degree of upgrade plan to new and existing roads, anticipated volume and route for traffic, including oversized and heavy equipment needed for construction, maintenance and repairs, methodology of repairs and maintenance of roads and bridges used for the project, and related public pedestrian and vehicular access and associated fencing);

K. Public safety (potential hazards to adjacent properties, public roadways, communities, aviation, etc., that may be created);

L. Noise limitations (noise levels at the property line of the project boundary);

M. Telecommunications interference (electromagnetic fields and communications interference generated by the project);

N. Life of the project and final reclamation (describing the decommissioning and final land reclamation plan after anticipated useful life or abandonment or termination of the project,

including evidence of an agreement with the property owner that ensures proper final reclamation of the geothermal power plant project);

O. Others, as applicable.

(Ord. 6 § 2 (part), 2009)

1-27-5 Submission of application. Permit Applications. Application for a geothermal power plant shall include the following information:

A. Site plan to scale showing the location of the proposed geothermal power plant and the locations of all existing buildings, structures and property lines along with distances, including a drawing depicting the area;

B. Elevations of the site to scale showing the height, design and configuration of the geothermal power plant and the height and distance to all existing structures, buildings, electrical lines and property lines;

C. Standard drawings and engineering analysis of the geothermal power plant;

D. A standard foundation and anchor design along with soil conditions and specifications for the soil conditions at the site;

E. Specific information on the type, size, rated power output, performance, safety and noise characteristics of the system, including the name and address of the manufacturer, model;

F. Emergency and normal shutdown procedures;

G. A line drawing of the electrical components of the geothermal power plant in sufficient detail to establish that the installation conforms to all applicable electrical codes;

H. Evidence that the provider of electrical service of the property has been notified of the intent to install an interconnected electricity generator, unless the system will not be connected to the electricity grid. If applicable, prior to final approval, the applicant shall provide evidence that the net-metering interconnection application has been applied for, or:

1. A work order number from the utility company has been acquired (for net-metering), and/or

2. Proof that an application for tax credit or rebate has been submitted to the state of Utah or applicable utility;

I. A conditional use permit application with response to provisions specified in Section 10-27-4(A) through (O) herein. (Ord. 6 § 2 (part), 2009)

10-27-6 Nuisance impact easements. The following standards shall apply for all nuisance impact easements within Iron County relating to geothermal power plants.

A. The easement must be recorded with the Washington County Recorder's office.

B. The easement shall provide that it runs with the land.

C. The easement shall state that the current and subsequent owners are put on notice of the actual proximity of any geothermal power plant and are within the prescribed separation

distance area of the proposed geothermal power plant, as well as stating any potential or reasonably anticipated impacts to the property from the proposed geothermal power plant.

D. The easement shall state that it precludes all owners of the property from suing to remove or close the geothermal power plant without proving in the suit that the impacts present a detriment to the health and welfare of the surrounding land owners within the prescribed separation distance area, and is not merely a nuisance to the occupants of an appropriate residence or public gathering place located within a separation distance area.

E. The easement shall be signed and dated by the owner, board of trustees, or governing body of the subject property and shall be in a form that can be recorded in the office of the Washington County Recorder. (Ord. 6 § 2 (part), 2009)